

Remarks

Claim Amendments

Claims 1 and 10 have each been amended to recite that the tread cap comprises from about 25 to about 45 phr of carbon black. Claims 4 and 11 have been correspondingly amended to delete the carbon black limitation.

Claims 7 through 9 have been cancelled without prejudice or disclaimer.

The Rejection

The following patents have been relied upon to reject various of the Applicants' claims:

<u>U.S. Patents</u>	
6,095,217	Nakamura 217
<u>Foreign Patent Publications</u>	
JP3-7602	JP 602
JP 10-298349	JP 349
KR 2003046542	KR 542
EP 893281	EP 281
CA 1169344	CA 344

Rejections Under 35 U.S.C. Section 103(a)

Claim 10 through 12 have been rejected as being obvious over JP 602 in view of JP 349 or KR 542, and further in view of EP 281.

Claims 7 through 9 have been rejected as being obvious over JP 602 in view of JP 349 or KR 542, and further in view of CA 344 and Nakamura 217. Claims 7 through 9 are now cancelled.

Claims 1, 4 and 5 have been rejected as being obvious over JP 602 taken with JP 349 or KR 542, and further in view of CA 344 and Nakamura 217 and further in view of EP 281.

Applicants urge that in each of the rejections the Examiner has employed impermissible hindsight reconstruction of the prior art to supposedly arrive at the present claims. Applicants urge that such hindsight reconstruction is an improper basis for obviousness and as such the rejections should be withdrawn. Moreover, even if the prior art is combined as proposed by the Examiner, one skilled in the art would have no expectation that the proposed combination would

be successful, and in any case the proposed combinations for each of the rejections do not result in the present claims.

The following Table A summarizes the limitations of the present claims and the teaching of JP 602:

<u>Table A. Summary of Limitations of Claims 1, 7, and 10 v JP 602</u> (deficiency indicated in bold typeface)		
	<u>Present Claims</u>	<u>JP 602</u>
<u>Tread Cap</u>		
Natural Rubber	yes	yes
Carbon Black	about 25 to about 45	50
Silica	about 8 to about 35	silent
G'	about 1.2 MPa to about 1.6 MPa	silent
300 percent modulus	about 10 MPa to about 12 MPa	158
<u>Tread Base</u>		
Natural Rubber	yes	yes
Carbon Black	about 25 to about 50	10 to 40
Silica	about 8 to about 35	10 to 40
G'	about 1.0 MPa to about 1.3 MPa	silent
300 percent modulus	about 8 MPa to about 11 MPa	105-120
Stiffness, Tread Cap > Tread Base	yes	yes
Tread Base to Tread Cap Volume Ratio	about 0.5 to about 1	0.5 to 1

As seen in the above table, with respect to the limitations of the current claims, JP 602 is deficient in a least 6 of the limitations of claim 1, and 4 of the limitations of claim 10.

With respect to claim 10, to compensate for deficiency of 3 limitations in JP 602 regarding tread cap silica, tread cap 300 percent modulus, and tread base 300 percent modulus, the Examiner finds teachings from secondary references as shown in Table B. A fourth deficiency with respect to carbon black content of the cap exists owing to the amendment to claim 10.

Table B. Teachings from Secondary references for claim 10

	<u>2nd Ref</u>	<u>Teaching</u>
<u>Tread Cap</u> silica	JP 349	5-85 pts silica, 0-80 pts carbon black in cap or base of tread
	KR542	10-15 pts silica, 35-40 pts carb black in cap 5-20 pts silica, 25-38 pts carb black in base
300 percent modulus	JP 602	300% mod for cap greater than for base in cap with no silica, 50 pts carbon black
	EU 281	300% mod ranges 10-16 MPa in monolithic tread with 5-35 pts silica and 10-75 pts carb black
<u>Tread Base</u> 300 percent modulus	JP 602	300% mod for cap greater than for base
	EU 281	300 % mod ranges 10-16 MPa in monolithic tread with 5-35 pts silica and 10-75 pts carb black

Applicants urge that no motivation exists to modify JP 602 with JP 349 or KR 542, and further with EU 281. In order to make the proposed modification, one skilled in the art would first need to recognize the desirability of using silica and carbon black in both the cap and the base. But then, to reach the present claims with a 300 percent modulus in the cap and base as recited and with the carbon black and silica contents as recited, one skilled would further need to **assume** that upon adding silica to the cap of JP 602, as supposedly suggested by JP 349 or KR 542, the 300 percent modulus of the cap would remain greater than that for the base; it is to be appreciated that in JP 602, the demonstration for a greater 300 percent modulus in the cap than in the base was for a cap compound containing only carbon black, with no silica. The Examiner has provided no reasoning that one skilled in the art would make such an assumption, nor has the Examiner provided a reason while one skilled in the art would expect that such a substitution would result in the 300 percent modulus remaining greater than the base. Further, the demonstration for a greater 300 percent modulus in the cap than in the base in JP 602 was for a cap containing 50 parts of carbon black; the present claims recite about 25 to about 45 phr of carbon black. Again, one skilled in the art would have to assume that with addition of silica and

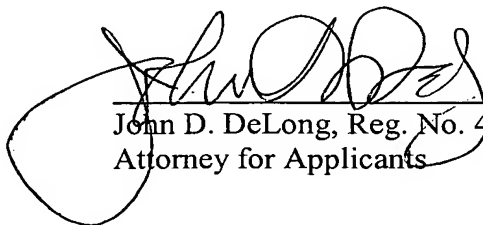
reduction of carbon black in the tread cap of JP 602, the 300 percent modulus of the cap would remain greater than that of the base. Applicants urge that one skilled in the art would have no such expectation and could not know this without undue experimentation; instead the Examiner has proposed a modification that would require such an assumption and/or experimentation.

Moreover, Applicants fail to understand how one skilled in the art would further look to EU 281 to modify the teaching of JP 602, JP 349 or KR 542, even assuming the 300 percent modulus of the cap thereby obtained is greater than the 300 percent modulus of the base, to arrive at the present claims. Even with this assumption, the combination of JP 602 with JP349 or KR542 still does not result in the present claims, but results at best in a cap/base tread without specific knowledge of the 300 percent modulus values for the cap and the base. To remedy this further deficiency, the Examiner proposes that one skilled in the art would now look to EU 281, which describes not a cap/base type of tread, but rather a monolithic tread of a single compound. Applicants urge that this addition to the proposed combination of prior art still does not result in the present claims. If one skilled in the art did look to EU 281 to supplant this deficiency, and assume that such a monolithic tread compound with a 300 percent modulus of 10-16 MPa is also suitable as a tread cap in a cap/base tread, and still assume that the 300 percent modulus of the cap is greater than that of the base, it still does not define what the 300 percent modulus of the base should be. The Examiner apparently suggests that one skilled in the art would assume the 300 percent modulus of the base would be from about 8 MPa to about 11 MPa, as in the present claims; Applicants urge that there is no such teaching in the proposed combination of prior art. This seems to be an argument for inherency on the part of the Examiner; however, even with the proposed combination, it does not follow that a 300 percent modulus for the base of from about 8 MPa to about 11 MPa necessarily flows from the combination. Without more, it could just as easily be said that the 300 percent modulus for the base should be from about 5 to about 6 MPa or from about 6 to about 7 MPa, etc. The proposed combination does not result in the present claims.

With respect to claim 1, Applicants urge that the arguments applied to claim 10 apply equally to claim 1, and note that claim 1 is therefore fully patentable over the cited art.

A reconsideration of the rejection of the Applicants' claimed invention as being obvious in the sense of 35 U.S.C. Section 103(a) is requested in view of distinguishing comments made herein.

Respectfully submitted,



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